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THE SAILORS' MAGAZINE AND SEAMEN'S FRIEND.

THE SAILORS' MAGAZINE AND SEAMEN'S FRIEND, a monthly pamphlet of thirty-two pages, will contain the proceedings of the American Seamen's Friend Society, and its Branches and Auxiliaries, with notices of the labors of local independent Societies, in behalf of Seamen. It will aim to present a general view of the history, nature, progress and wants of the SEAMEN'S CAUSE, commending it earnestly to the sympathies, the prayers and the benefactions of all Christian people.

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SAILORS' THE MAGAZINE



AND SEAMEN'S FRIEND

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From The Cornhill Magazine.

A MIGHTY SEA-WAVE.

On May 10th, 1877, a tremendous wave swept the Pacific Ocean from Peru northwards, westwards, and southwards, traveling at a rate many times greater than that of the swiftest express train. For reasons best known to themselves, writers in the newspapers have, by almost common consent, called this phenomenon a tidal wave. But the tides have had nothing to do with it. Unquestionably the wave resulted from the upheaval of the bed of the ocean in some part of that angle of the Pacific Ocean which is bounded by the shores of Peru and Chili. This region has long been celebrated for tremendous submarine and subterranean upheavals. The opinions of geologists and geographers have been divided as to the real origin of the disturbances by which at one time the land, at another time the sea, and at yet other times (oftener in fact than either of the others) both land and sea have been

shaken as by some mighty imprisoned giant, struggling, like Prometheus, to cast from his limbs the mountain masses which hold them down. Some consider that the seat of the Vulcanian forces lies deep below that part of the chain of the Andes which lies at the apex of the angle just mentioned, and that the direction of their action varies according to the varying conditions under which the imprisoned gases find vent. Others consider that there are two if not several seats of subterranean activity. Yet others suppose that the real seat of disturbance lies beneath the ocean itself, a view which seems to find support in several phenomena of recent Peruvian earthquakes.

Although we have not as yet full information concerning the great wave which in May last swept across the Pacific, and northwards and southwards along the shores of the two Americas, it may be interest-

ing to consider some of the more striking features of this great disturbance of the so-called peaceful ocean, and to compare them with those which have characterized former disturbances of a similar kind. We may thus, perhaps, find some evidence by which an opinion may be formed as to the real seat of subterranean activity in this region.

It may seem strange, in dealing with the case of a wave which apparently had its origin in or near Peru on May 9th, to consider the behavior of a volcano distant five thousand miles from this region, a week before the disturbance took place. But, although the coincidence may possibly have been accidental, yet in endeavoring to ascertain the true seat of disturbance we must overlook no evidence, however seemingly remote, which may throw light on that point; and as the sea-wave generated by the disturbance reached very quickly the distant region referred to, it is by no means unlikely that the subterranean excitement which the disturbance relieved may have manifested its effects beforehand at the same remote volcanic region. Be this as it may, it is certain that on May 1st the great crater of Kilauea in the island of Hawaii, became active, and on the 4th severe shocks of earthquake were felt at the Volcano House. At three in the afternoon a jet of lava was thrown up to a height of about one hundred feet, and afterwards some fifty jets came into action. Subsequently jets of steam issued along the line formed by a fissure four miles in length down the mountain-side. The disturbance lessened considerably on the 5th, and an observing party examined the crater. They found that a rounded hill, seven hundred feet in height, and one thousand four hundred feet in diameter, had

been thrown up on the plain which forms the floor of the crater. Fire and scoria were spouted up in various places.

Before rejecting utterly the belief that the activity thus exhibited in the Hawaii volcano had its origin in the same subterranean or submarine region as the Peruvian earthquake, we should remember that other regions scarcely less remote have been regarded as forming part of this great Vulcanian district. The violent earthquakes which occurred at New Madrid, in Missouri, in 1812, took place at the same time as the earthquake of Caraccas, the West Indian volcanoes being simultaneously active; and earthquakes had been felt in South Carolina for several months before the destruction of Caraccas and La Guayra. Now we have abundant evidence to show that the West Indian volcanoes are connected with the Peruvian and Chilian regions of Vulcanian energy, and the Chilian region is about as far from New Madrid as Arica in Peru from the Sandwich Isles.

It was not, however, until about half past eight on the evening of May 9th that the Peruvian earthquake began. A severe shock, lasting from four to five minutes, was felt along the entire southern coast, even reaching Autofagasta. The shock was so severe that it was impossible, in many places, to stand upright. It was succeeded by several others of less intensity.

While the land was thus disturbed, the sea was observed to be gradually receding, a movement which former experiences have taught the Peruvians to regard with even more terror than the disturbance of the earth itself. The waters which had thus withdrawn, as if concentrating their energies to leap more fiercely on their prey,

presently returned in a mighty wave, which swept past Callao, traveling southwards with fearful velocity, while in its train followed wave after wave, until no less than eight had taken their part in the work of destruction. At Mollendo the railway was torn up by the sea for a distance of three hundred feet. A violent hurricane which set in afterwards from the south prevented all vessels from approaching, and unroofed most of the houses in the town. At Arica the people were busily engaged in preparing temporary fortifications to repel a threatened assault of the rebel ram "Huiscar," at the moment when the roar of the earthquake was heard. The shocks here were very numerous, and caused immense damage in the town, the people flying to the Morro for safety. The sea was suddenly perceived to recede from the beach, and a wave from ten to fifteen feet in height rolled in upon the shore, carrying before it all that it met. Eight times was this assault of the ocean repeated. The earthquake had levelled to the ground a portion of the custom-house, the railway station, the submarine-cable office, the hotel, the British consulate, the steam ship agency, and many private dwellings. Owing to the early hour of the evening, and the excitement attendant on the proposed attack of the "Huiscar," every one was out and stirring; but the only loss of life which was reported is that of three little children who were overtaken by the water. The progress of the wave was only stopped at the foot of the hill on which the church stands, which point is further inland than that reached in August, 1868. Four miles of the embankment of the railway were swept away like sand before the wind. Locomotives, cars, and rails

were hurled about by the sea like so many playthings, and left in a tumbled mass of rubbish.

The account proceeds to say that the United States steamer *Waters*, stranded by the bore of 1868, was lifted up bodily by the wave at Arica and floated two miles north of her former position. The reference is no doubt to the double-ender *Wateree*, not stranded by a bore (a term utterly inapplicable to any kind of sea-wave at Arica, where there is no large river), but carried in by the great wave which followed the earthquake of August 13. The description of the wave at Arica on that occasion should be compared with that of the wave last May. About twenty minutes after the first earth-shock the sea was seen to retire as if about to leave the shores wholly dry; but presently its waters returned with tremendous force. A mighty wave, whose length seemed immeasurable, was seen advancing like a dark wall upon the unfortunate town, a large part of which was overwhelmed by it. Two ships, the Peruvian corvette *America*, and the American double-ender *Wateree*, were carried nearly half a mile to the north of Arica, beyond the railroad which runs to Tacna, and there left stranded high and dry. As the English vice-consul at Arica estimated the height of this enormous wave at fully fifty feet, it would not seem that the account of the wave of last May has been exaggerated, for a much less height is, as we have seen, attributed to it, though, as it carried the *Wateree* still farther inland, it must have been higher. The small loss of life can be easily understood, when we consider that the earthquake was not followed instantly by the sea-wave. Warned by the experience of the earthquake of 1868, which

most of them must have remembered, the inhabitants sought safety on the higher grounds until the great wave and its successors had flowed in. We read that the damage done was greater than that caused by the previous calamity, the new buildings erected since 1868 being of a more costly and substantial class. Merchandise from the custom-house and stores was carried by the water to a point on the beach five miles distant.

At Iquique, in 1868, the great wave was estimated at fifty feet in height. We are told that it was black with the mud and slime of the sea bottom. "Those who witnessed its progress from the upper balconies of their houses, and presently saw its black mass rushing close beneath their feet, looked on their safety as a miracle. Many buildings were, indeed, washed away, and in the low-lying parts of the town there was a terrible loss of life." Last May the greatest mischief at Iquique would seem to have been caused by the earthquake, not by the sea-wave, though this also was destructive in its own way. "Iquique," we are told, "is in ruins. The movement was experienced there at the same time and with the same force (as at Arica). Its duration was exactly four minutes and a third. It proceeded from the southeast, exactly from the direction of Ilaga." The houses built of wood and cane tumbled down at the first attack, lamps were broken, and the burning oil spread over and set fire to the ruins. Three companies of firemen, German, Italian, and Peruvian, were instantly at their posts, although it was difficult to maintain an upright position, shock following shock with dreadful rapidity. Nearly four hundred thousand quintals of nitrate in the stores at Iquique

and the adjacent ports of Molle and Pisagua were destroyed. The British barque *Caprera* and a German barque sank, and all the coasting craft and small boats in the harbor were broken to pieces and drifted about in every direction.

At Chanavaya, a small town at the guano-loading deposit known as Pabellon de Pica, only two houses were left standing out of four hundred. Here the earthquake shock was specially severe. In some places the earth opened in crevices seventeen yards deep, and the whole surface of the ground was changed. The shipping along the Peruvian and Bolivian coast suffered terribly. The list of vessels lost or badly injured at Pabellon de Pica alone reads like the list of a fleet.

We have been particular in thus describing the effects produced by the earthquake and sea-wave on the shores of South America, in order that the reader may recognize in the disturbance produced there the real origin of the great wave which a few hours later reached the Sandwich Isles, five thousand miles away. Doubt has been entertained respecting the possibility of a wave, other than the tidal wave, being transmitted right across the Pacific. Although in August 1868 the course of the great wave which swept from some region near Peru, not only to the Sandwich Isles, but in all directions over the entire ocean, could be clearly traced, there were some who considered the connection between the oceanic phenomena and the Peruvian earthquake a mere coincidence. It is on this account perhaps chiefly that the evidence obtained last May is most important. It is interesting, indeed, as showing how tremendous was the disturbance which the earth's frame must then have undergone.

It would have been possible, however, had we no other evidence, for some to have maintained that the wave which came in upon the shores of the Sandwich Isles a few hours after the earthquake and sea disturbance in South America was in reality an entirely independent phenomenon. But when we compare the events which happened last May with those of August 1868, and perceive their exact similarity, we can no longer reasonably entertain any doubt of the really stupendous fact that *the throes of the earth in and near Peru are of sufficient energy to send an oceanic wave right across the Pacific*, and of such enormous height at starting, that, after traveling with necessarily diminishing height the whole way to Hawaii, it still rises and falls through thirty-six feet. The real significance of this amazing oceanic disturbance is exemplified by the wave circles which spread around the spot where a stone has fallen into a smooth lake. We know how, as the circle widens, the height of the wave grows less and less, until at no great distance from the centre of disturbance the wave can no longer be discerned, so slight is the slope of its advancing and following faces. How tremendous, then, must have been the upheaval of the bed of ocean by which wave-circles were sent across the Pacific, retaining, after traveling five thousand miles from the centre of disturbance, the height of a two-storied house. In 1868, indeed, we know (now even more certainly than then) that the wave traveled very much farther, reaching the shores of Japan, of New Zealand, and of Australia, even if it did not make its way through the East Indian Archipelago to the Indian Ocean, as some observations

seem to show. Doubtless we shall hear in the course of the next few months of the corresponding effects of the spread of last May's mighty wave athwart the Pacific, though the dimensions of the wave of last May, when it reached the Sandwich Isles, fell far short of those of the great wave of August 13th-14th, 1868.

It will be well to make a direct comparison between the waves of May last and August 1868 in this respect, as also with regard to the rate at which they would seem to have traversed the distance between Peru and Hawaii. On this last point, however, it must be noted that we cannot form an exact opinion until we have ascertained the real origin of Vulcanian disturbance on each occasion. It is possible that a careful comparison of times, and of the direction in which the wave front advanced upon different shores, might serve to show where this region lay. We should not be greatly surprised to learn that it was far from the continent of South America.

The great wave reached the Sandwich Isles between four and five on the morning of May 10th, corresponding to about five hours later of Peruvian time. An oscillation only was first observed at Hilo, on the east coast of the great southern island of Hawaii, the wave itself not reaching the village till about a quarter before five. The greatest difference between the crest and trough of the wave was found to be thirty-six feet here; but at the opposite side of the island, in Kealakekua Bay (where Captain Cook died), amounted only to thirty feet. In other places the difference was much less, being in some only three feet, a circumstance doubtless due to interference, waves which had reached the same spot

along different courses chancing so to arrive that the crest of one corresponded with the trough of the other, so that the resulting wave was only the difference of the two. We must explain, however, in the same way, the highest waves of thirty-six to forty feet, which were doubtless due to similar interference, crest agreeing with crest and trough with trough, so that the resulting wave was the sum of the two which had been divided, and had reached the same spot along different courses. It would follow that the higher of the two waves was about twenty-one feet high, the lower about eighteen feet high; but as some height would be lost in the encounter with the shore line, wherever it lay, on which the waves divided, we may fairly assume that in the open ocean, before reaching the Sandwich group, the wave had a height of nearly thirty feet from trough to crest. We read, in accordance with this explanation, that "the regurgitations of the sea were violent and complex, and continued through the day."

The wave, regarded as a whole, seems to have reached all the islands at the same time. If this is confirmed by later accounts, we shall be compelled to conclude that the wave reached the group with its front parallel to the length of the group so that it must have come (arriving as it did from the side towards which Hilo lies) from the north-east. It was then not the direct wave from Peru, but the wave reflected from the shores of California, which produced the most marked effects. We can understand well, this being so, that the regurgitations of the sea were complex. Any one who has watched the inflow of waves on a beach so lying within an angle of the

shore, that while one set of waves comes straight in from the sea, another thwart set comes from the shore forming the other side of the angle, will understand how such waves differ from a set of ordinary rollers. The crests of the two sets form a sort of network, ever changing as each set rolls on; and considering any one of the four-cornered meshes of this wave-net, the observer will notice that while the middle of the raised sides rises little above the surrounding level, because here the crests of one set cross the troughs of the other, the corners of each quadrangle are higher than they would be in either set taken separately, while the middle of the four-cornered space is correspondingly depressed. The reason is that at the corners of the wave-net, crests join with crests to raise the water surface, which in the middle of the net (not the middle of the sides, but the middle of the space enclosed by the four sides) trough joins with trough to depress the water surface.*

We must take into account the circumstance that the wave which reached Hawaii last May was probably reflected from the Californian coast when we endeavor to determine the rate at which the sea disturbance was propagated across the Atlantic. The direct wave would have come sooner, and may have escaped notice because arriving in the night-time, as it would necessarily have done if a wave which traveled to California, and thence, after reflection, to the Sandwich

* The phenomena here described are well worth observing on their own account as affording a very instructive and at the same time very beautiful illustration of wave motions. They can be well seen at many of our watering-places. The same laws of wave motion can be readily illustrated also by throwing two stones into a large smooth pool at points a few yards apart. The crossing of the two sets of circular waves produces a wave-net, the meshes of which vary in shape according to their position.

group, arrived there at a quarter before five in the morning following the Peruvian earthquake. We shall be better able to form an opinion on this point after considering what happened in August 1868.

The earth throe on that occasion was felt in Peru about five minutes past five on the evening of August 13th. Twelve hours later, or shortly before midnight, Aug. 13th, Sandwich Island time (corresponding to 5 p. m., August 14th, Peruvian time), the sea round the group of the Sandwich Isles rose in a surprising manner, "insomuch that many thought the islands were sinking, and would shortly subside altogether beneath the waves. Some of the smaller islands were for a time completely submerged. Before long, however, the sea fell again, and as it did so the observers found it impossible to resist the impression that the islands were rising bodily out of the water. For no less than three days this strange oscillation of the sea continued to be experienced, the most remarkable ebbs and floods being noticed at Honolulu, on the island Oahu."

The distance between Honolulu and Arica is about sixty-three hundred statute miles; so that, if the wave traveled directly from the shores of Peru to the Sandwich Isles, it must have advanced at an average rate of about five hundred and twenty-five miles an hour (about four hundred and fifty knots an hour). This is nearly half the rate at which the earth's surface near the equator is carried round by the earth's rotation, or is about the rate at which parts in latitude sixty-two or sixty-three degrees north are carried round by rotation; so that the motion of the great wave in 1868 was fairly comparable

with one of the movements which we are accustomed to regard as cosmical. We shall presently have something more to say on this point.

Now last May, as we have seen, the wave reached Hawaii at about a quarter to five in the morning, corresponding to about ten Peruvian time. Since, then, the earthquake was felt in Peru at half past eight on the previous evening, it follows that the wave, if it traveled directly from Peru, must have taken about thirteen and a half hours, or an hour and a half longer, in traveling from Peru to the Sandwich Isles, than it took in August 1868. This is unlikely, because ocean waves travel nearly at the same rate in the same parts of the ocean, whatever their dimensions, so only that they are large. We have, then, in the difference of time occupied by the wave in May last and in August 1868 in reaching Hawaii, some corroboration of the result to which we were led by the arrival of the wave simultaneously at all the islands of the Sandwich group—the inference, namely, that the observed wave had reached these islands after reflection from the Californian shore line. As the hour when the direct wave probably reached Hawaii was about a quarter past three in the morning, when not only was it night-time, but also a time when few would be awake to notice the rise and fall of the sea, it seems not at all improbable that the direct wave escaped notice, and that the wave actually observed was the reflected wave from California. The direction, also, in which the oscillation was first observed corresponds well with this explanation.

It is clear that the wave which traversed the Pacific last May was

somewhat inferior in size to that of August 1868, which therefore still deserves to be called (as then by the present writer) the greatest sea-wave ever known. The earthquake, indeed, which preceded the oceanic disturbance of 1868 was far more destructive than that of May last, and the waves which came in upon the Peruvian and Bolivian shores were larger. Nevertheless, the wave of last May was not so far inferior to that of August 1868 but that we may expect to hear of its course being traced athwart the entire extent of the Pacific Ocean.

When we consider the characteristic features of the Peruvian and Chilian earthquakes, and especially when we note how wide is the extent of the region over which their action is felt in one way or another, it can scarcely be doubted that the earth's Vulcanian energies are at present more actively at work throughout that region than in any other. There is nothing so remarkable, one may even say so stupendous, in the history of subterranean disturbance as the alternation of mighty earth throes by which, at one time, the whole of the Chilian Andes seem disturbed and anon the whole of the Peruvian Andes. In Chili scarce a year ever passes without earthquakes, and the same may be said of Peru; but so far as great earthquakes are concerned the activity of the Peruvian region seems to synchronize with the comparative quiescence of the Chilian region, and *vice versa*. Thus, in 1797 the terrible earthquake occurred known as the earthquake of Riobamba, which affected the entire Peruvian earthquake region. Thirty years later a series of tremendous throes shook the whole of Chili, permanently elevating the whole line of coast

to the height of several feet. During the last ten years the Peruvian region has in turn been disturbed by great earthquakes. It should be added that between Chili and Peru there is a region about five hundred miles in length in which scarcely any volcanic action has been observed. And singularly enough, "this very portion of the Andes, to which one would imagine that the Peruvians and Chilians would fly as to a region of safety, is the part most thinly inhabited; insomuch that, as Von Buch observes, it is in some places entirely deserted."

One can readily understand that this enormous double region of earthquakes, whose oscillations on either side of the central region of comparative rest may be compared to the swaying of a mighty see-saw on either side of its point of support, should be capable of giving birth to throes propelling sea-waves across the Pacific Ocean. The throe actually experienced at any given place is relatively but an insignificant phenomenon, it is the disturbance of the entire region over which the throe is felt, which must be considered in attempting to estimate the energy of the disturbing cause. The region shaken by the earthquake of 1868, for instance, was equal to at least a fourth of Europe, and probably to fully one-half. From Quito southwards as far as Iquique—or along a full third part of the length of the South American Andes—the shock produced destructive effects. It was also distinctly felt far to the north of Quito, far to the south of Iquique, and inland to enormous distances. The disturbing force which thus shook one million square miles of the earth's surface must have been one of almost inconceivable energy. If directed

entirely to the upheaval of a land region no larger than England, those forces would have sufficed to have destroyed utterly every city, town, and village within such a region; if directed entirely to the upheaval of an oceanic region, they would have been capable of raising a wave which would have been felt on every shore line of the whole earth. Divided even between the ocean on the one side and a land region larger than Russia in Europe on the other, those Vulcanian forces shook the whole of the land region and sent athwart the largest of our earth's oceans a wave which ran in upon shores ten thousand miles from the centre of disturbance with a crest thirty feet high. Forces such as these may fairly be regarded as cosmical; they show unmistakably that the earth has by no means settled down into that condition of repose in which some geologists still believe. We may ask with the late Sir Charles Lyell whether, after contemplating the tremendous energy thus displayed by the earth, any geologist will continue to assert that the changes of relative level of land and sea, so common in former ages of the world, have now ceased? and agree with him that if, in the face of such evidence, a geologist persists in maintaining this favorite dogma, it would be vain to hope, by accumulating proofs of similar convulsions during a series of ages, to shake the tenacity of his conviction—

*Si fractus illabatur orbis,
Impavidum ferient ruinæ.*

But there is one aspect in which such mighty sea-waves, as, in 1868 and again last May, have swept over the surface of our terrestrial oceans, remain yet to be considered.

The oceans and continents of

our earth must be clearly discernible from her nearer neighbors among the planets—from Venus and Mercury on the inner side of her path around the sun, and from Mars (though under less favorable conditions) from the outer side. When we consider, indeed, that the lands and seas of Mars can be clearly discerned with telescopic aid from our earth at a distance of forty millions of miles, we perceive that our earth, seen from Venus at a little more than half this distance, must present a very interesting appearance. Enlarged, owing to greater proximity, nearly fourfold, having a diameter nearly twice as great as that of Mars, so that at the same distance her disc would seem more than three times as large, more brightly illuminated by the sun in the proportion of about five to two, she would shine with a lustre exceeding that of Mars, when in full brightness in the midnight sky, about thirty times; and all her features would of course be seen with correspondingly increased distinctness. Moreover, the oceans of our earth are so much larger in relative extent than those of Mars, covering nearly three-fourths instead of barely one-half of the surface of the world they belong to, that they would appear as far more marked and characteristic features than the seas and lakes of Mars. When the Pacific Ocean, indeed, occupies centrally the disc of the earth which at the moment is turned towards any planet, nearly the whole of that disc must appear to be covered by the ocean. Under such circumstances the passage of a wide-spreading series of waves over the Pacific, at the rate of about five hundred miles an hour, is a phenomenon which could scarcely fail to be discernible from Venus or Mercury, if either planet

chanced to be favorably placed for the observation of the earth—always supposing there were observers in Mercury or Venus, and that these observers were provided with powerful telescopes.

It must be remembered that the waves which spread over the Pacific on Aug. 13th–14th, 1868, and again on May 9th–10th last, were not only of enormous range in length (measured along crest or trough), but also of enormous breadth (measured from crest to crest, or from trough to trough). Were it otherwise, indeed, the progress of a wave forty or fifty feet high (at starting, and thirty-five feet high after traveling six thousand miles), at the rate of five hundred miles per hour, must have proved destructive to ships in the open ocean as well as along the shore line. Suppose, for instance, the breadth of the wave from crest to crest one mile, then, in passing under a ship at the rate of five hundred miles per hour, the wave would raise the ship from trough to crest—that is, through a height of forty feet—in one thousandth part of an hour (for the distance from trough to crest is but half the breadth of the wave), or in less than four seconds, lowering it again in the same short interval of time, lifting and lowering it at the same rate several successive times. The velocity with which the ship would travel upwards and downwards would be greatest when she was midway in her ascent and descent, and would then be equal to about the velocity with which a body strikes the ground after falling from a height of four yards. It is hardly necessary to say that small vessels subjected to such tossing as this would inevitably be swamped. On even the largest ships the effect of such motion would be most unpleasantly obvi-

ous. Now, as a matter of fact, the passage of the great sea-wave in 1868 was not noticed at all on board ships in open sea. Even within sight of the shore of Peru, where the oscillation of the sea was most marked, the motion was such that its effects were referred to the shore. We are told that observers on the deck of a United States war steamer distinctly saw the “peaks of the mountains in the chain of the Cordilleras wave to and fro like reeds in a storm;” the fact really being that the deck on which they stood was swayed to and fro. This, too, was in a part of the sea where the great wave had not attained its open sea form, but was a rolling wave, because of the shallowness of the water. In the open sea, we read that the passage of the great sea-wave was no more noticed than is the passage of the tidal wave itself. “Among the hundreds of ships which were sailing upon the Pacific when its length and breadth were traversed by the great sea-wave, there was not one in which any unusual motion was perceived.” The inference is clear, that the slope of the advancing and following faces of the great wave was very much less than in the case above imagined; in other words, that the breadth of the wave greatly exceeded one mile—amounting, in fact, to many miles.

Where the interval between the passage of successive wave-crests was noted, we can tell the actual breadth of the wave. Thus, at the Samoan Isles, in 1868, the crests succeeded each other at intervals of sixteen minutes, corresponding to eight minutes between crest and trough. As we have seen that, if the waves were one mile in breadth, the corresponding interval would be only four seconds, or only one

hundred-and-twentieth part of eight minutes, it would follow that the breadth of the great wave, where it reached the Samoan Isles in 1868, was about one hundred and twenty miles.

Now a wave extending right athwart the Pacific Ocean, and having a cross breadth of more than one hundred miles, would be discernible as a marked feature of the disc of our earth, seen under the conditions described above, either from Mercury or Venus. It is true that the slope of the wave's advancing and following surfaces would be but slight, yet the difference of illumination under the sun's rays would be recognizable. Then, also, it is to be remembered that there was not merely a single wave, but a succession of many waves. These traveled also with enormous velocity; and though at the distance of even the nearest planet, the apparent motion of the great wave, swift though it was in reality, would be so far reduced that it would have to be estimated rather than actually seen, yet there would be no difficulty in thus perceiving it with the mind's eye. The rate of motion indeed would almost be exactly the same as that of the equatorial part of the surface of Mars, in consequence of the planet's rotation; and this (as is well known to telescopists), though not discernible, directly produces, even in a few minutes, changes which a good eye can clearly recognize. We can scarcely doubt then, that, if our earth were so situated at any time when one of the great waves generated by Peruvian earthquakes is traversing the Pacific that the hemisphere containing this ocean were turned fully illuminated towards Venus (favorably placed for observing her), the disturbance of the Pacific could be

observed and measured by telescopists on that planet.

Unfortunately, there is little chance that terrestrial observers will ever be able to watch the progress of great waves athwart the oceans of Mars, and still less that any disturbance of the frame of Venus should become discernible to us by its effects. We can scarce even be assured that there are lands and seas on Venus, so far as direct observation is concerned, so unfavorably is she always placed for observation; and though we see Mars under much more favorable conditions, his seas are too small and would seem to be too shallow (compared with our own) for great waves to traverse them such as could be discerned from the earth.

Yet it may be well to remember the possibility that changes may at times take place in the nearer planets—the terrestrial planets as they are commonly called, Mars, Venus and Mercury,—such as telescopic observation under favorable conditions might detect. Telescopists have, indeed, described apparent changes, lasting only for a short time, in the appearance of one of these planets, Mars, which may fairly be attributed to disturbances affecting its surface in no greater degree than the great Peruvian earthquakes have affected for a time the surface of our earth. For instance, the American astronomer Mitchel says that on the night of July 12th, 1845, the bright polar snows of Mars exhibited an appearance never noticed at any preceding or succeeding observation. In the very centre of the white surface appeared a dark spot, which retained its position during several hours. On the following evening not a trace of the spot could be seen. Again the same observer says that

on the evening of Aug. 30th, 1845, he observed for the first time a small bright spot, nearly or quite round, projecting out of the lower side of the polar spot, "In the early part of the evening," he says, "the small bright spot seemed to be partly buried in the large one. After the lapse of an hour or more my attention was again directed to the planet, when I was astonished to find a manifest change in the position of the small bright spot. It had apparently separated from the large spot, and the edges alone of the two were now in contact, whereas when first seen they overlapped by an amount quite equal to one-third of the diameter of the small one. This, however, was merely an optical phenomenon, for on the next evening the spots went through the same apparent changes, as the planet went through the corresponding part of its rotation.

But it showed the spots to be real ice masses. The strange part of the story is that in the course of a few days the smaller spot, which must have been a mass of snow and ice as large as Nova Zembla, gradually disappeared." Probably some great shock had separated an enormous field of ice from the polar snows, and it had eventually been broken up and its fragments carried away from the arctic regions by currents in the Martian oceans. It appears to us that the study of our own earth, and of the changes and occasional convulsions which affect its surface, gives to the observation of such phenomena as we have just described a new interest. Or rather, perhaps, it is not too much to say that telescopic observations of the planets derive their only real interest from such considerations.

WHEN THE SEA WAS YOUNG.

One fact in the past history of our earth stands out with unmistakable distinctness. The whole frame of the globe on which we live, and move, and have our being, was once glowing with intense heat. Whether we consider the earth's frame with the geologist, or study with the astronomer the nature of the planets' movements and the evidence so afforded respecting prior conditions of the solar system, we are alike forced to this conclusion. At a very remote period the whole substance of the earth must have been molten with intensity of heat; at a still more remote period the whole of that substance must have been gaseous with a heat still more intense; and these stages of the earth's history, remote though they were, and continuing so long that,

according to our modes of measuring time, they were practically everlasting, were yet but two among a series of eras whose real number, no doubt, was to all intents and purposes *infinite*.

Now when we go back to even the nearer of those two eras we find that we must conceive of our ocean during that era as utterly unlike the seas which now encompass the earth. Its substance was the same, or nearly so, but its condition must have been altogether different. No water could for a moment rest upon the intensely hot surface of a globe raging with heat exceeding that of a smelting furnace. There could not have been during that era oceans of liquid water, though all the water of our present oceans surrounded the earth

then as now. The water must at that time have existed in the form of mixed vapor and cloud; that is, it must have been spread through the air partly as pure aqueous vapor and partly in those aggregations of minute liquid globules and vesicles of water forming visible cloud-masses. There must also at that time, as now, have been various kinds of cloud-forms—an outside layer consisting of the light feathery cirrus clouds, below that a layer of the cumulus or “woolpack” clouds, and below that again a deep layer of the densest nimbus or rain-clouds, from which perfect sheets of rain must at all times have been falling; not, however, to reach the glowing surface of the earth, but to be vaporized in their fall, and in the form of vapor to pass upwards again. We say that all this *must* have been; because, in point of fact, however doubtful we may feel as to many details of the earth's condition in the remote era we are considering, there can be no doubt whatever as to the general facts indicated above. We have only to inquire what would happen at the present day if the earth's whole frame were to be gradually heated until at last the surface glowed with a heat equal to that of white-hot iron, to perceive that, whatever other changes might take place, the ocean certainly would be entirely evaporated—boiled off, so to speak. But the water thus added to the earth's atmospheric envelope in the form of vapor could not possibly remain *wholly* in that form. At a great distance from the glowing earth the aqueous vapor would find a cooler region, and higher still would be exposed to the actual cold of space. Hence there would follow inevitably the formation of clouds of the various orders, *cirrus*, *cumulus*, and *nimbus*, not probably

in absolutely distinct layers, but the *cirrus* commingled with the *cumulus*, the *cumulus* with the *nimbus*, and the whole series of cloud-layers affected by the most violent disturbances, partly from the continual rushing upwards of freshly-formed vapors, partly from the continual rarefactions and condensations of the air under the varying conditions to which it would be subjected through the continual changes of the watery envelope. For at every change from the form of pure aqueous vapor to the cloud-form, an enormous amount of heat would be developed, while corresponding quantities of heat would be withdrawn in vaporizing other masses of watery matter. The depth of the atmospheric region throughout which these stupendous processes were continually in progress must far have exceeded the depth of the cloud-regions of our own atmosphere. For the same heat which prevented the water from resting on the earth's surface must have prevented the heavier rain-clouds from approaching within many miles of that surface without being turned into pure aqueous vapor. Again, not only would the layer of rain-clouds, thus raised many miles above the earth's surface, be also many miles in depth, but the heat prevailing throughout the layer would in turn prevent a layer of cumulus clouds from being formed, except at a great height, above the rain-cloud layer. In like manner the cirrus or snow-cloud layer would be raised high above the layer of the cumulus clouds. And each of these layers, besides being separated from the next below by a deep intermediate space of commingled cloud-forms, would also be of great thickness. Hence we may fairly assume that the extreme range of the lightest

and highest clouds in that era of the earth's history must have been many miles from the earth's surface, even if the atmosphere then contained no greater amount of matter (other than its watery constituents) than at present. But we have reason for believing that, besides the oxygen and nitrogen now present in the air, there must have been at that remote era enormous quantities of carbonic, chloric, and sulphurous gases besides an excess of oxygen; and all these, with the aqueous vapor (alone far exceeding the entire present atmosphere of the earth), expanded by a tremendous heat. This heavily-loaded atmosphere must therefore have extended much farther, we may even say *many times* farther, from the

earth than her present aërial envelope. It is not at all unlikely that the outermost part of the cloud-envelope was then several hundred miles from the earth's surface, itself raised, through the expansive effects of heat, many miles above the level it was to assume when cooled. In attempting, indeed, to conceive the effects produced by that tremendous heat with which, most certainly, the whole frame of our earth was once instinct, we are far more likely to fall short of the reality than to exceed it, partly because the physical processes concerned are so far beyond our ordinary experience, but much more because they operated on so inconceivably vast a scale. —

Cornhill Magazine.

THE SLEEPING SENTINEL SAVED BY HIS SISTER.

AN INCIDENT OF THE LATE AMERICAN WAR.

Mr. Owen, a pious farmer of Vermont, gave his eldest son, Benjamin, as a soldier in the Northern Federal army in the late American Civil War of 1861-5. One day a message arrived which fell like a thunderbolt upon the anxious yet hopeful family. The lad had been found asleep at his post as sentinel, and was condemned to be shot.

The terrible news soon spread in the village, and the good minister, Mr. Allan, came at once to see if it were possible to administer consolation to the heart-broken parents.

"Oh, sir," cried the sorrowing old man, "such a dear, precious, noble boy! I thought, when I gave him to his country, that not a father in all this broad land made so precious a gift—no, not one. God forgive me if my grief is a sin. Mr. Allan, the dear boy only slept

a minute, just one little minute, at his post: I know that was all, for Bennie never dozed over a duty. How prompt and reliable he was!" and Mr. Owen's eye wandered out over the brown fields with such a perplexed, wondering look.

"I know he only fell off one little second; he was so young, and not strong, that boy of mine! Why, he was as tall as I, and only eighteen; and now they shoot him because he was found asleep when doing sentinel!" Mr. Owen repeated these words very slowly, as if endeavoring to find out their true meaning. "Twenty-four hours—the telegraph said only twenty-four. Where is Bennie now?"

"With his Heavenly Father we will hope," said Mr. Allan, soothingly.

"Yes, yes, let us hope. God is

very merciful," he said, "and Jesus died for sinners who trust in Him. Oh, Bennie, Bennie!"

The mother raised herself as she heard his name called, and turning, said with a smile,—“Don't call so loud, father. Bennie is not far off; he will come soon.”

“God has laid His hand on them both, you see,” said Mr. Owen, pointing to her, without making any direct reply. “She has not been justly herself since. It is a merciful thing she is sort of stunned, it seems to me; she makes no wail.”

Mr. Allan looked in astonishment at the bowed man, as he came now and stood before him. These few hours had done the work of years. The sinewy frame was tottering, the eyes were dimmed, and the sudden sorrow had written itself in deep wrinkles all over his manly face. “God have mercy on you: He is trying you in a furnace seven times heated!” he exclaimed, almost involuntarily.

The daughter, a fair young girl—Blossom, as they called her—had sat near them, listening with blanched cheek. She had not shed a tear that day, and the terror in her face had been so very still that not one noticed it. She had occupied herself mechanically in the household care, which her mother's condition devolved entirely upon her. Now she answered a gentle tap at the kitchen door, opening it to receive from a neighbor's hand a letter. “It is from him,” was all she said.

'Twas like a message from the dead. Mr. Owen could not break the seal for his trembling fingers, and held it toward Mr. Allan with the helplessness of a little child. The minister opened it, and, obedient to a motion from the father, read as follows:—

“*Dear Father* :—When this reaches you I shall be in eternity. At first it seemed awful to me, but I have thought about it so much now, that it has no terror. They say they will not bind me nor blind me, but that I may meet my death like a man. I thought, father, it might have been on the battle-field for my country; but to be shot down like a dog—to die for neglect of duty! Oh, father, I wonder the very thought does not kill me! But I shall not disgrace you. I am going to write you all about it, and when I am gone you may tell my comrades.

“You know I promised Jemmy Carr's mother I would look after her boy, and when he fell sick, I did all I could for him. He was not strong when he was ordered back into the ranks, and the day before that night I carried all his luggage, besides my own, on our march. Toward night we went in on double-quick, and though the luggage began to feel very heavy, everybody else was tired, too; and as for Jemmy, if I had not lent him an arm now and then, he would have dropped by the way. I was all tired out when I came into camp, and then it was Jemmy's turn to be sentry, and I would take his place; but I was too tired father. I could not have kept awake if I had had a gun at my head; but I did not know it until—well, until it was too late.”

(“God be thanked!” interrupted Mr. Owen, reverently. “I knew Bennie was not the boy to sleep carelessly at post.”)

“They tell me to day that I have a short reprieve, given to me by circumstances—‘time to write to you,’ our good colonel says. Forgive him, father—he only does his duty; he would gladly save me if he could. And don't lay my death

against Jemmy; the poor boy is broken-hearted, and does nothing but beg and entreat them to let him die in my stead.

"I can't bear to think of mother and Blossom. Comfort them, father! tell them I die as a brave boy should; and that when the war is over, they will not be ashamed of me, as they must be now. God help me! Good-bye, father. God seems near and dear to me; not at all as if He wished me to perish for ever, but as if He felt sorry for His poor, sinful, broken-hearted child, and would take me to be with Him and my Savior, in a better, better life!"

(A great sob burst from Mr. Owen's heart. "Amen!" he said, solemnly; "Amen!")

"To-night, in the early twilight, I shall imagine I see the cows all coming home from pasture—Daisy, and Brindle, and Bet; old Billy, too, will neigh from his stall, and precious little Blossom stand waiting for me, but I shall never, never come. God bless you all! forgive your poor Bennie!"

Late that night the door opened softly, and a little figure glided out and down the footpath that led to the road by the mill. She seemed rather flying than walking, turning her head neither to the right nor left; starting not as the full moon stretched queer, fantastic shapes all around her; looking only now and then to heaven and folding her hands as if in prayer.

Two hours later the same young girl stood at the Mill Depot, watching the coming of the night train, and the conductor, as he reached down to lift her in, wondered at the sweet, tear-stained face that was upturned toward the dim lantern he held in his hand.

A few questions and ready answers told him all, and no father

could have cared more tenderly for his own child than he for our little Blossom.

She was on her way to Washington to ask President Lincoln for her brother's life. She had stolen away, leaving only a note to tell her father where and why she had gone. She had brought Bennie's letter with her, believing that no good, kind heart like the President's could refuse to be melted by it.

The next morning they reached New York, and the conductor found suitable company for Blossom and hurried her on to Washington. Every minute now might be a year in her Brother's life.

And so, in an incredibly short time, Blossom reached the Capital, and was hurried at once to the White House. The President had just seated himself to his morning task of overlooking and signing important papers, when, without one word of announcement, the door softly opened, and Blossom, with eyes downcast and folded hands, stood before him.

"Well, my child," he said, in his pleasant, cheery tones, "what do you want so bright and early in the morning?"

"Bennie's life, please, sir!" faltered out Blossom.

"Bennie? Who is Bennie?"

"My brother, sir. They are going to shoot him for sleeping at his post."

"Oh! yes;" and Mr. Lincoln ran his eye over the papers before him; "I remember. It was a fatal sleep. You see, child, it was a time of special danger. Thousands of lives might have been lost for his culpable negligence."

"So my father said," said Blossom, gravely. "But poor Bennie was so tired, sir, and Jemmy so weak. He did the work of two,

and it was Jemmy's night, not his; but Jemmy was too tired, and Bennie never thought about himself that he was too tired."

"What is this you say, child? Come here; I don't understand;" and the kind man caught eagerly as ever at what seemed to be a justification of an offense.

Blossom went to him; he put his hand tenderly on her shoulder, and she turned up the pale, anxious face toward his. How tall he seemed; and he was President of the United States, too! A dim thought of this kind passed for a moment through Blossom's mind; but she told her story simply and straightfoward, and handed Mr. Lincoln Bennie's letter to read.

He read it carefully; then, taking up his pen, wrote a few hasty lines, and rang the bell. Blossom heard this order given: "Send this dispatch at once."

The President then turned to the girl, and said,—

"Go home, my child, and tell that father of yours, who could approve his country's sentence, even when it took the life of a child like that, that Abraham Lincoln thinks the life far too precious to be lost. Go back;—or wait until to-morrow. Bennie will need change after he has so bravely faced death; he shall go with you."

"God bless you, sir!" said Blossom.

After the President had sent the order, he was afraid of a slight delay; so, with his large heart full of sympathy for the family, he at once ordered his carriage, giving his driver orders to drive as fast as the weather would permit—for it was one of those August days of heat and dust. Just a short time before the colonel gave his orders to fire, a cloud of dust was seen in the distance, then a carriage driven furiously, and quickly our good President Lincoln alighted, and, seeing tall Bennie ready for the summons, said, "That dear boy's life must be saved; and also let him have a few days' furlough."

Two days after this interview the young soldier came to the White House with his little sister. He was called into the President's private room, and a strap of promotion fastened "upon the shoulder," Mr. Lincoln said, "that could carry a sick comrade's baggage, and die for the good act so uncomplainingly."

Then Bennie and Blossom took their way to their Green Mountain home, and a crowd gathered at the Mill Depot to welcome them back; and farmer Owen's head towered above them all; and, as his hand grasped that of his boy, Mr. Allan heard him say, fervently, as the holiest blessing he could pronounce upon his child: "Just and true are Thy ways, Thou King of saints."

A Faithful Simile.

The life of a disciple on earth is like a voyage on the sea. The sea is rough, the heart is sick, the land is not in sight. Helpless and miserable, the voyager lays himself down at night. He looks and feels as if he cared for nothing and hoped for nothing. But underneath all this sadness a living hope

is burning which these stormy waters cannot quench. He has confidence in the ship and the crew, he expects soon to reach the shore; and when he reaches it his sorrow is over, and even the memory of it almost blotted out. Suddenly from the open sea the ship has passed through the portals of the haven and there is at once a great calm.
—*Arnot.*

Mere Mention.

The tug *Anglia* left the port of Ferrol, Spain, January 15th, towing the *Cleopatra*, the caisson containing the Cleopatra (Egyptian) Obelisk, on its way to England. On the 20th January, the obelisk passed Margate, England, and has, at last, reached London.—The U. S. Senate has passed the House Bill for the relief of the sufferers by the wreck of the United States steamer *Huron*. There is to be paid to the heirs of those lost on the steamer a sum equal to one year's sea pay to the person lost, to the heirs of Capt. J. J. Guthrie, of the U. S. Life Saving Service, a sum equal to his compensation for one year, and to the heirs of those of the steamer *B. and J. Baker*, who were lost in an attempt to save those of the *Huron*, the sum of \$100. The provision of the bill to pay the surviving officers of the *Huron* \$1,000 each, and other survivors \$100, was left as it came from the House of Representatives.

The N. Y. Life Saving Benevolent Association met January 17th. John D. Jones was elected *President*; Royal Phelps, *Vice-President*; W. H. H. Moore, *Treasurer*; C. A. Hand, *Secretary*. During the previous year, rewards were given to nineteen persons, for saving life at sea, or under circumstances of peril. The largest of these rewards was \$250, given to John Wilson, of New Orleans, who, in October, 1860, while in command of a vessel, spoke the steamer *Camaught* at sea, on fire, and in a sinking condition, with her decks crowded with passengers. By extraordinary effort, courage and presence of mind he succeeded in saving the passengers and crew. In recognition of his bravery, large amounts were raised for him in this port and elsewhere, but they failed to reach him by reason of the Civil War. He is now blind and destitute. The Steamboat Inspectors of the port of New York in 1877, examined 624 steam vessels, an increase of 28 vessels over the previous year; two were condemned. The number of boilers inspected was 686, of which 101 were found defective, 19 gave way under hydraulic pressure, and 8 were condemned. Five masters and five engineers lost their licenses for violation of the law. They report nine accidents by fire, thirty by collision (with thirty-five lives lost), three by breakage of machinery, and seven wrecks. The total amount of property lost was: by wreck, \$426,000; by fire, \$376,200; by collision, \$10,700; by

breakage of machinery, \$25,000. Twenty-three new steamers were put in commission, and nine vessels (including three lost) went out of service.

How Imminent His Peril!

That whatever is to be done to rescue the sailor from spiritual death, should be done quickly, has an illustration in the recent letter of a friend near one of the U. S. Life Saving Stations who says:—

"May the Lord abundantly bless your efforts for the salvation of seamen, many of whom have met death on our shores during the past week! *Although our winter has been mild, yet one short snow storm and blow proved fatal to several coasting vessels. May this increase a spirit of prayer for that suffering class of our fellow men!*"

A Sermon Furnished, etc.

"During the absence of our pastor, in November, we had what we call a Deacon's meeting, one Sabbath, and it fell to my lot to conduct the services. I read on the occasion, a part of Rev. C. H. Spurgeon's sermon, 'There go the ships,' printed in the October SAILORS' MAGAZINE. My father, Capt. George Moore of the London Line, took the SAILORS' MAGAZINE in 1837, and we have had it in the family, every year since then."—W. J. M.

For the Sailors' Magazine.

Thy Name.

My youth and manhood's years are gone,
My gray-haired age records its scores;
Heart-worn with care, athirst for rest,—
Far from itself my spirit soars;—

Soars heavenward to its Master-Friend,
Who His sure word to me has given,
These lower dwellings to adorn
With promise of a home in Heaven.

Life's sun is now a starry glow,
Life's day is changed to twilight hour;
Earth's rainbow joys of passing hue
Full soon bedimmed, lose all their power.

One planet's orb yet glitters bright
On the horizon of my soul;—
And one loved name I pleading, breathe,
Till o'er me Death's dark waters roll.

When that dark tide, dear, loving Christ,—
Shall sweep away my mortal frame,
And I meet judgment, at thy throne,—
Grant me the love of thy dear name!

C. A. C.

Newark, N. J.

Pleasant Words.

We append a few expressions of interest in the MAGAZINE,—part of those usually received at this season.

FROM MAINE.

"I have been in its receipt for some time. The volumes are not stowed away in my library, but after perusing them, I put them on board the coasters and fishing vessels, sailing from this place, with the request, that when read, they be passed over to some other vessel, to be used until worn out. And I have assurance, that the MAGAZINE is highly prized wherever it goes."—"We value its monthly visits and afterwards give it to an old sailor."

FROM VERMONT.

"We value too highly, that choice monthly, the SAILORS' MAGAZINE, to omit the expression of our desire for its continuance."

FROM MASSACHUSETTS.

"I find it one of the most interesting Magazines that comes to me."—"We are pleased with the new face of the MAGAZINE; have always enjoyed and been instructed by its contents. We congratulate you upon attaining your Semi-Centennial."—"I am always interested in its contents, and think it improves each year."—"The MAGAZINE is a delightful one,—the best looking and the most interesting, that comes to my table."

FROM CONNECTICUT.

"We like the SAILORS' MAGAZINE better than our newspapers."—"I should not know how to do without it."—"It is increasingly interesting to me, and to the members of my family."—"I am glad to see the little envelope again, and send my mite to help along the cause. You (the AMERICAN SEAMEN'S FRIEND SOCIETY) were born in 1828;—so was I, and we can rejoice together in your usefulness, and hope that the next fifty years will realize much more of the blessing of God, in your enlargement."

FROM NEW JERSEY.

"One of the highly prized visitors to my study is THE SAILORS' MAGAZINE. My children honor it as heartily as their parents."—"I thank you for it, than which there is none more welcome to me, or read by my family with deeper interest."—"I find the SAILORS' MAGAZINE one of our most interesting and valuable religious monthlies. I do not feel willing to be without it."

FROM OHIO.

"I have read it for fifty years with great interest, and shall continue to do so."

FROM ILLINOIS.

"We value it, and feel great interest in the cause, daily praying that God may speed the Gospel among the men of the sea."

A Touching Donation.

May the following letter, just at hand, provoke some of our readers to pray that such a gift for seamen be eminently blest of God!

B.—N. Y., Jan. 11th, '78.

"Please credit the within four dollars to C. L. N.—using so much as is needful, to send the SAILORS' MAGAZINE, one year, to Capt. C. S.—"

The donor died on the 6th inst. Before dying she placed the money in my hand, with the above request.

Yours respectfully,

E. M. N.

Extraordinary Library Work.

We call especial attention to the record of our Loan Library Work in the LIFE BOAT printed with this number of the MAGAZINE—the largest we have reported for any one month for years past,—if indeed it has ever been equalled. To be able to record for a single month, the sending out sixty-two new libraries, and also the shipment, from our Rooms, of thirty-four libraries which have before been issued,—a total of NINETY-SIX, is a proof of continuous and increasing support in our efforts to provide good reading for seamen, which leads us to be profoundly grateful to God, and to the donors who make us their agents.

From the U. S. Life Saving Stations.

Keepers JOHN W. YOUNG, Station No. 5, Dist. No. 2, Provincetown, Mass., E. P. WORTHEN, Station 7, Dist. No. 2, Highlands, Cape Cod, Mass., H. S. WILLETTS, Station 34, Dist. No. 4, Townsend

Inlet, N. J., and H. M. LEE, Station 10, Dist. No. 10, Milwaukee, Wis., send their hearty thanks for the steady receipt of the SAILORS' MAGAZINE.

Keeper CHAS. J. MULFORD, Station 8, Dist. No. 3, Amagansett, L. I., having received for his crew our Loan Library No. 6,226, writes:—

"We do sincerely thank you for your kindness, in providing it for the benefit of the present crew, and also for those who may succeed us in trying to save the lives of our fellow men, who may be cast upon our shores. We feel unable to express our gratitude with the pen, but you may be sure, that it is heartfelt. May the knowledge we shall receive through your great institution be as bread cast on the waters, which shall return to the donors a hundred fold in this world, and life evermore in the next! Below you have the names of my crew."

From Plum Island, (Mass.) Dist. No. 2, Station 1, we have the following:—"I have received your Library (No. 6,209), and for it we were very grateful. It is pleasing to me as I sit reading your good books, to think that there are some who take an interest in the sailor. A great work has been done on sea and land by you, and we pray that you may be the means of bringing many souls to Christ." Keeper SQUIRES, Station No. 12, Dist. No. 3, (Good Ground, L. I.) writes:—"I feel under renewed obligations to express my thanks to the Seamen's Friend Society for the valuable donation of Library No. 6,228, as also for the SAILORS' MAGAZINE for January, 1878. Some of my crew are now reading The Bible, others the Book of Common Prayer, and others are studying Geography;—all seem to be looking for good moral instruction. Instead of playing cards they are reading good books I have not the slightest doubt that the seed which is being sown will bring forth fruit to the honor and glory of God our Savior. I look upon the reading matter sent us by your Society, as a great blessing, for which I pray you to receive our undivid-

ed thanks."—The Keeper of Station No. 4, Dist. No. 4, (Monmouth Beach, N. J.) says:—"We read your MAGAZINE with a great deal of pleasure, as five of my men, with myself, are praying men, and expect, by the grace of God, to persevere until death. We have a great deal of encouragement in reading the MAGAZINE. *We ask for your prayers to keep us in the way to Heaven,—and that the Lord will help us to perform our duty, since I feel that a great responsibility devolves upon us in trying to save those who may be cast upon our shores. May God bless you in your labor of love!*"

Keeper S. LINNELL of Station 11, Dist. No. 2 (Orleans, Mass., on Cape Cod), thanking us for the MAGAZINE, says: "Every month it brings to us fresh evidences of unknown and unseen friends: some noble deed or daring act in rescuing a crew from shipwreck or danger is often brought to mind in the quiet hour of night, or in the wildest storm, and we feel better qualified by reading the MAGAZINE to go and do likewise. During the past week, we have been visited by a dreadful storm, and have been called to care for both the dead and the living. The loss of the Schooner *G. G. Babcock*, of Egg Harbor, N. J., with all on board, was sad indeed. Every effort was in vain. She broke completely up before we had time to render assistance, although but two miles from the Station. We were within one-third of a mile of her, when she split lengthwise and her masts fell.

"The decayed timbers show the cause of her so suddenly breaking to pieces. No person was seen on board, and as the boat, with a few pieces of a trunk; were the first things to land, end over end, I think the crew were lost from the boat. The sea, however, gave up its dead. Five bodies have been recovered, two were those of colored men, and the other three were white. Their friends were informed, and I suppose, they will be carried home for interment.

"The British Schooner *Sea Lion*, of St. John, N. B., was wrecked on the bar near by, with the same kind of cargo, coal. This crew was saved,—the vessel

holding together through the storm,—clothed and made comfortable, and carried to the depot, where a free pass was given them by the O. C. R. R. Co., over their road to Boston, to report to the British Consul.

Acknowledgment.

The following has been sent to us for publication, viz.: "We the mariners of the schr. *Rebecca Knight*, desire to express our thanks to Capt. John J. CONNOR and his crew, of Life Saving Station No. 3, District No. 5, (coast of Maryland) for their timely assistance, and their humane conduct towards us in rescuing us from the wreck of the schooner on Green Run Beach, (Md.) January 4th, 1878. The vessel broke up immediately, both masts going by the board soon after the vessel struck, and but for their prompt aid and God's help, every man must have perished."

W. T. CAMBERN,
Mate, for the crew.

What One Bible Did.

A single copy of the Scriptures which was given to a SAILOR in the harbor of Cork, Ireland, fell into the hands of a Mexican priest and was the means of his conversion to Christ, and through him of two hundred of his countrymen, and the subsequent establishment of a prosperous mission.

Favorably Received.

The proposition submitted in the January MAGAZINE to celebrate our Semi-Centenary by the erection of a new SAILORS' HOME has excited wide-spread and gratifying interest.

Many having had their attention called to the subject, are deeply impressed with its importance, and for various reasons urge its undertaking as soon as practicable.

A prominent gentleman residing in an adjoining State and thoroughly acquainted with our work, writes us as follows:

"You have wisely and appropriately

called attention to the deep interest clustering around this as the Semi-Centennial period in the history of your noble Society. Now if by any means a voice of power could reach the dull ear of our spiritual Israel and rouse her to judicious action in the direction proposed, how it would tell on human character and destiny! Pulpit, Press and Platform should be engaged upon the subject. The establishment in the great metropolis of a MEMORIAL HOME for seamen, is a project worthy of the thought and the generous benefactions of the philanthropic and Christian public. May the Lord help you to plan judiciously and comprehensively in this matter!"

Among other communications on the subject, one came to hand a few days since, enclosing a gift, which for the spirit that constrained it and the measure of its sacrifice, we look upon as prophetic of success. We quote from the letter as follows:

"I see by the last number of your MAGAZINE that you propose to build a new SAILORS' HOME to commemorate the Semi-Centenary of your Society. We (my wife and self) cordially approve of this and would gladly aid you if it were in our power. But we have been laid aside by sickness and the infirmities of old age from labor for nearly twelve years, and have come to be dependent upon our children for our bread. One of our children sent us the other day one dollar to get some little delicacy for our comfort, and Mrs. ——— suggests that we send it to you in aid of your glorious undertaking. Would it were a thousand dollars! Please find enclosed one dollar for the new SAILORS' HOME, with our best wishes and prayers for your success."

We have had tendered us some very liberal subscriptions toward the enterprise projected, but none that has moved us like this. We have named it the *Foundation Dollar*. "Verily the Lord intends that building to go up," was the comment of a ministerial brother, on hearing of this first gift toward it.

The Sailor's Text.

BREAKERS AHEAD.

"*He that being often reproved hardeneth his neck, shall suddenly be destroyed, and that without remedy.*"—Prov. xxix. 1.

Breakers ahead! what a startling cry is *that*! It is the danger-signal of old ocean. This text is such a breaker! Would that we would listen, while we may, to its warning sound! How wondrous God's forbearance! Sinner! how often might He have struck thee down in the midst of thy sins and follies,—thy ingratitude and disobedience! But He has lengthened out thy day of grace. Guilty neglecter and cumberer though thou art, His hand of mercy is "stretched out still."

But presume not on His patience. Do not trifle with His leniency. His Spirit will not "always strive." His mercy does not always last. There is a point beyond which even the long-suffering kindness of a God of *love* cannot go. If frequent reproofs and rebukes and warnings lead only to hardness and impenitence of heart, the dooming sentence must "*suddenly*" go forth; and then (oh, solemn thought!) there will be "*no remedy*"—no reversal. As the tree falleth, so must it lie." As death leaves a man, so will judgment find him. "*He that is unjust, let him be unjust still.*"

WORK AMONG SEAMEN.

CORRESPONDENCE, REPORTS, &c.

Sweden.

HELSINGBORG.

(On S. W. Coast: Lat. 56° N., Long. 10° 30' E. from Greenwich.)

At last advices, Rev. N. P. WAHLSTEDT was at Malmo, where he had been for several days, visiting on shipboard, preaching the Word of God to "sailors and other sinners."

Norway.

CHRISTIANIA.

(On S. W. Coast: N. Lat. 59° 56' : Long. 10° 46' E. from Greenwich.)

Rev. S. SWENSON, writing hence, Dec. 20th, '77, speaks of expecting to leave Christiania for Christiansand, (N. Lat. 53° 10', Long. 7° 58' E. from Greenwich, on S. W. Coast), with the purpose of determining what openings for evangelistic labor among sailors, exist there, and at other ports on the coast between the two places. He says: "We are everywhere respected by the people, and the doors are open for us, if we come with the Gospel."

Italy.

GENOA.

The Russo-Turkish war has diminished the arrivals of British vessels, at this port, but Rev. D. MILLER writes that the arrivals of United States vessels have largely increased, being more numerous than at any other time since 1869. The Mission and the Floating Bethel are highly appreciated by the officers and men on board these vessels.

Mr. Jones, the colporteur, has lately been laid aside by a slight wound, but Mr. Miller has himself visited on shipboard. His practical assumption of Mr. Jones' duties leads him to say: "I am more than ever convinced of the necessity of having a missionary in such a port as this, whose whole time can be devoted to the work. Vessels and steamships come in to-day, and perhaps sail to-morrow, and unless one is free to avail himself of the first leisure hour, which the men have, they are not visited. It is very important, also, that week-evening meetings be held in the cabins or forecastles of vessels in different parts of the harbor.

I have been very much gratified by meeting a number of earnest Christian Captains and mates, on both American and British vessels. At my recent meetings, three American Captains have taken part in the service."

He then speaks of the need of some other means than those which are available, to collect the sailors in the harbor at religious service, and says:—

"Hitherto the mission boat has gone round the ships and brought such sailors as were really desirous to attend the service. But the harbor is large and, when many ships have to be visited, the boat must begin the round a considerable time before the hour of meetings, and the result is, that all sorts of excuses are made for not leaving the ship, *e. g.*, 'the men are at tea,' or they are 'not dressed yet.'—It has occurred to me, that a steam launch might be advantageously employed to make *two* rounds of the harbor, before each meeting, the first to remind the men of it, and request them to get themselves ready, and the second to gather them from their ships, and ferry them over to the 'Bethel,' just in time for the service. In this way, I am persuaded, many a sailor might be helped to resist the temptation to go on shore, where he is almost sure to get into trouble. I should be glad to learn through your columns, if this plan has ever been tried, or if any of your readers can suggest a good method for gathering together sailors in a large harbor, where captains prefer to have their ships' boats on the davits."

The work among foreign seamen is still carried on by Signor Delfino. In the last six months Scriptures have been sold by him, in whole, or in part, to the number of 257 copies, and 405 religious books and pamphlets. Nine hundred and twenty-eight vessels, and more than 9,000 emigrants, upon them, were visited.—Mr. Miller adds an interesting letter from New Orleans, covering the gift of 25 lire, as a testimony of appreciation of the mission's work for sailors.

Sandwich Islands.

HONOLULU.

Rev. Dr. S. C. DAMON's last letter transmitting his thirty-eighth Annual

Report as seamen's chaplain in the service of this Society, which will appear in the next number of the MAGAZINE, states, that he was enabled during 1877, to nearly pay off the debt incurred in building a new Lecture Room. Expenses during the year 1877 were \$2,504 12; receipts for the same period, \$2,341 46,—this aside from the cost of the *Friend*, and of Dr. D's own salary. The *Friend* is about self-supporting, at an expenditure of \$650 per annum.

Japan.

YOKOHAMA.

Advices from Mr. W. T. AUSTEN, colporteur, are to Nov. 8th, 1877. The Asiatic cholera was on the decline. Meetings had been held every evening during the previous month, and some of the worst characters in the settlement had regularly attended them. The ravages of cholera, interrupting communication between vessels and the shore, had interfered with shipboard work, but during the quarter, 152 visits were paid to vessels in port, gospel services were held upon 32, and 27 visits were paid to the hospitals. Several backsliding christians had been reclaimed and encouraged to start anew.

Mr. Austen has secured the use of a pleasant room in the Temperance Hall, which has been fitted up as a Reading Room for sailors, and will be lighted and warmed during the winter evenings. It will prove, he hopes, a counter attraction to the grogshops, which abound. He sends the following record for these pages:

"On English merchant vessels it is customary to carry young men, who wish to become officers, as apprentices. They are usually messed in the afterpart of the deck-house. At the close of one of my meetings, a few evenings since, one of these apprentices, asked me to step into his berth. He then shewed me a book, (Dr. Mackey's "Grace and Truth"), which, he said, had been given him by

his mother at parting, with a request that he would promise to read it. During the outward bound voyage, although he disliked reading religious books, yet for his mother's sake, he took it from his chest and read it, and the reading of it, was, by God's blessing the means of his conversion. He was led to see his lost and undone condition, and to trust in Him, who came to seek and save the lost. I found him rejoicing in his new experience, and firmly resolved to endure all things for the sake of Him, who loved and gave Himself for him.

While I was conversing with him, two others had come in and joined in the conversation. One of these, whom I found to be the son of a clergyman of the Established Church, asked me, if there was such a thing as instantaneous conversion? I quoted the cases of Zaccheus, the thief on the cross, and the Philippian jailor. "How can a man know that he is saved?" I quoted John v. 24, and 1st John v. 13. "How could a man know that God heard and answered his prayers?" I quoted 1st John v. 14th and 15th. I found by these and other questions, that their comrade's example was already as good leaven beginning to work. After an interesting conversation of two hours, they joined with me in prayer, and I then left them, resting fully on the promise recorded in Isaiah lv. 11."

New Brunswick.

ST. JOHN.

Two hundred and twenty-three American vessels arrived at this port in 1877, the crews of which numbered 1,613 men. Rev. JAMES SPENCER preached fifty sermons to them, and made 200 visits on shipboard, besides 180 visits to the sick, and to others, with religious exercises, and the distribution of 24,000 pages of tracts. All the buildings near the shipping having been burned in last summer's fire, it was much more difficult to reach sailors, than ever before, but good fruits for Christ were gathered from the seed so sown.

Portland, Maine.

"Our work is going on," writes Rev. F. SOUTHWORTH, Chaplain, Jan. 13th, "in such a way, as to make us profoundly grateful to the Lord. We have kept two weeks of prayer, from the beginning of the year."

Boston, Mass.

Capt. BARTLETT'S nineteenth annual report of his labors as Missionary at the Chelsea Hospital, is as follows:—

"We have had a good degree of religious interest among the men for the year past. Four hundred and thirty-five officers and men have been admitted during the year; 227 have been treated as outside patients, making 662 in all for the year, 13,978 in nineteen years. Two meetings have been held each week, also Bibles, Testaments, tracts, papers, and magazines have been distributed weekly. Fifty-five Bibles and Testaments, 190,000 pages of tracts in ten different languages, 2,000 papers second hand and new, 200 magazines and pamphlets have been distributed. Fifty-five have signed the temperance pledge. Twenty-nine have given us hope that they have found the Savior, making 886 in the nineteen years; many of these return to us, after years of absence, still holding on their way, which gives us great encouragement in our work. Eleven have died, several of these soon after they came in, being beyond medical help, making 559 deaths in nineteen years. The Chelsea churches have not been admitted since July, the hospital rules being changed. Brothers Coburn, Clapp and Larsen have been allowed to help me in the meetings; and Miss Brooks has given out books from her library, weekly, which has done much in aiding the work among the men, for which they have my thanks.

Bible and both Tract Societies have supplied me with their publications liberally, for which I am very grateful.

Outside the hospital, I have attended the meetings at the Mariner's Church, have put up and sent out 64 new libraries, refitted and sent out 71 second hand ones. I have also presented the Seamen's Cause to 24 churches, 4 county conferences of churches, 2 Sabbath-school concerts, and several other meetings in different parts of the city."

Newburyport, Mass.

We have the Forty-fourth Annual Report of the Bethel Society, dated November, 1877. The receipts for the year were \$468 71; expenditures, \$419 00. Fifty dollars were donated to the Mariner's Church, San Francisco, \$30 00 to the Labrador Mission, and \$60 00 to the AMERICAN SEAMEN'S FRIEND SOCIETY. One hundred and twelve vessels were visited by Messrs. P. H. Lunt, and S. A.

McConnell, who distributed 117 packages of reading matter upon them. The membership of the Society is now 306.—Fanny G. Bray, *Sec'y*.

New York City.

Mr. DEWITT C. SLATER's Missionary Report is from Oct. 1st, 1877, to Jan 1st, 1878. Eight hundred and seventy-nine visits were made to seamen's boarding houses, 1,862 vessels were visited, and 29 visits were made to hospitals, asylums and prisons, 135 day and evening meetings were attended, and 23 out-door preaching services were held. Many of these visits were to canal boats, lying up for the season. Bibles, Testaments, and No. 1 Moody and Sankey's Hymns were distributed. Children on the canal boats were led to the house of God, and became regular attendants at Sabbath-schools. Religious reading was left upon the tables in seamen's boarding houses. Sailors have been converted in connection with all this labor, among others a young engineer in the U. S. Navy, a patient in the U. S. Naval Hospital in Brooklyn. Record is made of a remarkable change in the life and experience of a man formerly engineer upon a tug-boat in the harbor. "Gospel Meetings" at the foot of Wall St., with the crews of vessels, lying near by, were productive of great good, souls having there been brought to lay hold of eternal life in the Lord Jesus. These meetings closed in November, and the tent in which they were held was "hoisted up to a snug place on the pier for use next year."

Brooklyn.

MARINERS' CHURCH, PRESIDENT ST.

Rev. E. O. BATES in charge here, reports a continued religious interest of a most gratifying character. Four captains and their wives, with several others profess to have met with a change of heart, and both the Sabbath-School and weekly prayer meeting show the presence of God. The Temperance movement among the people of the neighborhood is attended with remarkable success. Larger accommodations are greatly needed. A commodious building would be filled as the Mission stands close to the shipping in the Atlantic docks.

NAVY YARD.

We have glowing accounts from Mr. T. D. WILLIAMS, of recent religious interest upon the school-ship *Minnesota*, among her 350 boys, at the chapel on Cob Dock, and at the U. S. Naval Hospital. Sunday, January, 6th, at the chapel, sixty seamen rose for prayers. The loss of the U. S. S. *Huron's* crew, on the North Carolina Coast, in November, made a deep impression on the sailors at the Yard.

Norfolk, Va.

December, 1877, was a month full of encouragement to Chaplain CRANE. Among the crews of the numerous cotton vessels in port, he found a number of men who entered heartily into his work, and took part in his meetings. The *Huron's* loss, in November, produced a solemn feeling, which it was his and their endeavor to utilize. The Chaplain at the U. S. Naval Hospital being absent, Rev. Mr. Crane had performed his duties. Two hundred and ten vessels were visited, 5,000 pages of tracts, and 450 seamen's papers and magazines distributed, with 31 Bibles, Testaments and Psalms.

Wilmington, N. C.

In December, Rev. Mr. KEEN, Chaplain, visited 23 American, 9 English, 15 German, 30 Scandinavian, 21 coasting and 18 steam vessels; total 116. The amount of shipping in the port was unprecedented.

Savannah, Ga.

In the three months ending December 31st, 1877, Chaplain WEBB made 341 visits to vessels, and preached 53 sermons, besides the usual distribution of reading matter. Bethel services were not so well attended as during last winter, English speaking sailors having been enticed from their ships, in port, by runners, far more than at that season. When they do this, they never go to a Bethel, lest they should meet their captain or mate. Chaplain Webb adds:

"There seems to me, to be only one

way to permanently benefit seamen, and that is to do away with the system of advance wages, which is a perfect system of fraud from one end to the other. Where it benefits one man it injures five hundred. I think that the best way would be to pay them off at the end of every passage. This would put them on their good behavior and save them, as a class, from being impoverished slaves. Many sailors come to this port and then run away leaving from one to two months wages behind. Then they go to a boarding-house and pay \$9 per week for board and lodging, \$5 to the runner, \$1 for baggage, \$5 for a new ship and then double charges for their drink, so that when they go to sea in two weeks, with \$35 advance they have nothing left but their dead horse to work out, and when they get to Liverpool or Havre they go on shore with empty pockets having made a North Atlantic voyage in midwinter and earned or got nothing. They are both to be pitied and blamed, and yet they will never do better until advance wages are stopped."

The Christmas celebration of the Bethel Sunday-school appears to have been a thoroughly enjoyable and profitable occasion.

Pensacola, Fla.

"Last night," (Dec. 30th, 1877,) says Chaplain CARTER: "although very inclement, witnessed the largest collection of seamen I have ever seen in my church."

New Orleans, La.

Chaplain PEASE writes January 10th: "I have painted my Bethel and reading-room outside and in, and by refurnishing and enlarging my supply of periodicals in various languages have endeavored by all means in my power to increase the attractiveness and usefulness of my establishment and so extend my own influence for good. I believe the Lord of Hosts is with us to crown our efforts. I have a throng in my room from morning until night, frequently counting fifty and upwards. Our meetings are well attended, both at the Bethel, on shipboard and at the upper locks. We have had very sensible tokens of the presence of the Holy Ghost. By endeavoring to make the smallest means, and every means, accomplish the greatest possible results, and by fidelity and patient continuance

in well doing, I hope to show myself not unworthy of the good will of my friends, and to meet the approval of God."

Sailors' Home, 190 Cherry Street.

Mr. F. ALEXANDER, Superintendent, reports one hundred and nine arrivals at the HOME, during the month of December, 1877. These men deposited with him, for safe keeping, the sum of \$1,150, of which \$320 was sent to relatives and friends,—the balance being returned to depositors.

Seven men were shipped without advance during the month, and one was sent to the Hospital.

Position of the Principal Planets for February, 1878.

MERCURY is a morning star rising on the 1st, at 5h. 46m., and south of east 28° 37', at the same time is at its greatest brilliancy; is at its greatest elongation on the 3rd, at 2m. past midnight, being then 25° 27' west of the sun; is in conjunction with Jupiter on the 6th, at 35m. past noon, being 23' north.

VENUS is an evening star until the evening of the 20th, at 8h. 48m., when it is in inferior conjunction with the Sun; during the remainder of the month is a morning star; is in conjunction with the Moon on the evening of the 4th, at 5h. 46m., being 4° 54' north.

MARS is an evening star, setting on the 1st at 11h. 52m., and north of west 16° 51'; is in conjunction with the moon on the morning of the 9th, at 4h. 46m., being 4° 32' south.

JUPITER is a morning star, rising on the 1st, at 6h. 7m., and south of east 29° 27'; is in conjunction with the moon on the 28th, at 1m. past midnight, being 2° 7' north.

SATURN is an evening star setting on the 1st., at 8h. 10m., and south of west 8° 32'; is in conjunction with the moon on the forenoon of the 5th, at 6h. 41m., being 4° 52' south.

N. Y. University.

R. H. B.

Marine Disasters, December, 1877.

The number of vessels belonging to, or bound to or from ports in the United States, reported totally lost and missing during the month was 45, of which 23 were wrecked, 7 abandoned, 3 burned, 5 sunk by collision, 3 foundered, 1 capsized, and 3 are missing. The list comprises 2 steamers, 4 ships, 6 barks, 5 brigs, and 28 schooners, and their total value, exclusive of cargoes, is estimated at \$697,700.

Below is the list, giving names, ports, destinations, &c. Those indicated by a *w* were wrecked, *a* abandoned, *b* burned, *s c* sunk by collision, *f* foundered, *c* capsized, and *m* missing.

STEAMERS.

Continental, *w*. from Eel River, Cal., for San Francisco.
Huntsville, *b*. from Savannah for New York.

SHIPS.

Quintero, *s c*. from Iquique for Boston.
Sunda, *b*. from Norfolk for Liverpool.
Pauline, *w*. from Bremen for New York.
Nimbus, *f*. from Portland, O., for Queenstown.

BARKS.

Utile, *s c*. from Baltimore for Queenstown.
Dos de Mayo, *m*. from Calao for San Francisco.

Enrico Dandolo, *f*. from New York for Queens-town.

Moonlight, *a*. from Norfolk for Amsterdam.
Pekin, *m*. from New York for Cardiff.
Ensimainen, *w*. from Baltimore for Wisbeach.

BRIGS.

Alice M. Putnam, *w*. from Orchilla for Baltimore.
G. M. Jones, *s c*. from New York to Halifax.
Aleppo, *a*. from Liverpool for New York.
Nazarene, *w*. from Hayti for New York.
Chillianwallah, *a*. from New York for Antwerp.

SCHOONERS.

Horace Moodie, *s c*. from Philadelphia for Boston.

N. H. Benedict, *s c*. from Malden, N. Y., for Baltimore.

Albert Edward, *w*. (At Salmon Creek, Cal.).
Two Sisters, *w*. from Mermentown for Galveston.

Ontario, *w*. from Perth Amboy for Stonington.
Eden, *c*. from Rough and Ready for San Francisco.

Ida May, *w*. from Portland for St. John N. B.
J. T. Alberger, *w*. from Philadelphia for Richmond.

C. B. Clements, *w*. from Pascagoula, for Galveston.

Gen. Connor, *w*. from Turks Island for Boston.

Mary A. Chase, *w*. from Bonaca for New York.
Eveline, *a*. from Bangor for Jacksonville.

Jane Maria, *w*. from New York for Norwich.
Edith, *a*. from Baltimore for Galveston.

D. H. Bisbee, *w*. from Ruatan for New York.
S. C. Tyler, *a*. from Wilmington, N. C., for Philadelphia.

William B. *w*. from Glace Bay for New York.
Francis Hatch, *w*. from Rondout for Boston.

Mary E. Rankin, *b*. from Philadelphia for Trieste.

Elizabeth Edwards, *w*. from New Orleans for Providence.

Madison Holmes, *f*. from Tampico for New York.

Maud Barbour, *w*. from Truxillo for New York.

Smith O'Brien, *w*. (At Saybrook, Ct.)

Northern Light, *w*. from Philadelphia for Cape May.

Armida Hall, *w*. from Portland for Havana.

Josephine, *m*. from New York for Orient, L. I.

Marietta, *w*. (At Humboldt Bar.)

Glanmire, *a*. from St. Thomas for New York.

The number of vessels belonging to, or trading with, ports in the United States, reported totally lost and missing during the year 1877, together with those of the previous year, and their estimated value, are given in the following

RECAPITULATION:

1877.	Ships.	Barks.	Brigs.	Sch's.	Total.	Value.
January.....	3	8	18	8	47	\$1,320,000
February.....	4	4	10	6	20	1,352,000
March.....	3	2	14	6	19	780,000
April.....	4	3	12	6	30	1,055,000
May.....	2	4	12	7	21	1,770,000
June.....	—	1	4	3	11	225,000
July.....	—	—	5	4	15	220,000
August.....	—	1	3	2	11	171,700
September.....	3	4	2	5	14	865,000
October.....	4	1	13	2	16	670,000
November.....	1	4	17	6	26	932,000
December.....	2	4	6	5	28	697,000
Total.....	26	36	116	60	258	\$10,037,700
1876.						
January.....	—	2	6	4	17	\$ 480,000
February.....	—	5	7	6	25	543,000
March.....	4	8	12	7	38	1,600,000
April.....	2	3	4	6	22	510,000
May.....	—	1	7	6	6	330,000
June.....	3	3	2	5	13	530,000
July.....	—	2	1	1	9	265,000
August.....	1	4	2	2	9	500,000
September.....	3	3	3	4	26	775,000
October.....	2	4	17	5	26	950,000
November.....	1	3	9	8	24	597,000
December.....	7	3	13	4	35	790,000
Total.....	23	41	83	58	214	\$7,890,000

The totals for 1875 foot up 373 vessels, with a value of \$7,612,000; for 1874, 351 vessels, value \$8,786,000; for 1873, 459 vessels, value \$11,783.00.

The *Bureau Veritas* publishes the following statistics of vessels of all nationalities reported lost during the month of

NOVEMBER, 1877.

Sailing Vessels:—77 English, 21 German, 20 American, 14 French, 14 Norwegian, 7 Dutch, 7 Portuguese, 6 Swedish, 5 Danish, 5 Italian, 3 Austrian, 1 Republic Argentine, 1 Belgian, 1 Russian, 8 of which the nationality is unknown; total: 190. In this number are included 4 vessels reported missing.

Steamers:—10 English, 2 German, 1 American, 1 Italian, 1 Norwegian, 1 Spanish; total: 16. In this number are included 3 steamers reported missing.

Receipts for December, 1877.

NEW HAMPSHIRE.

Bristol, Cong. church.....	\$ 3 25
Pelham, Cong. church.....	21 35
Rindge, Rev. Jason B. Perry.....	1 00
West Concord, Cong. church.....	8 15
Windham, Eliza Hill.....	5 00

VERMONT.

Waterbury, Miss M. E. Glysson, bal. to const. Arthur B. Howe of North Thetford, L. M.....	7 50
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MASSACHUSETTS.

Ashfield, Cong. church.....	22 93
Beverly, Cong. church.....	32 00
Boston, Capt. Mitchel and a friend, each \$1.....	2 00
Byfield, Cong. church.....	13 31
Cambridgeport, Pilgrim Cong. ch.....	44 39
Dana, Cong. church.....	1 10
Frammingham, Plymouth Cong. ch. S. S. for library.....	20 00
Greenfield, 2nd Cong. church.....	18 97

TO SABBATH-SCHOOL SUPERINTENDENTS.

No. of Library.	By whom furnished.	Where placed.	Bound for.	Men in Crew.
3226..	Cong. church, Bloomfield, Conn.....	Bark Skerryvore.....	Europe.....	10
3956..	S. S. Cong. church, Kent, Conn.....	Schr. W. W. Pharo.....	Charleston.....	8
3958..	Mrs. C. P. Brittan, Kent, Conn.....	Schr. Marcus A. Davis..	Key West.....	8
4084..	S. S. 2d Cong. ch., Greenfield, Mass..	Schr. Milo.....	St. Johns.....	7
4229..	Mrs. R. Burkhalter, New York City...	Brig Hattie Pettit.....	Spain.....	8
4658..	Cong. ch., Charlemon, Mass.....	Ship Valley Forge.....	Bombay.....	25
4678..	S. S. Central Cong. ch., Providence, R. I	Schr. R. W. Denham....	Hayti.....	6
4688..	S. S. Cong. ch., North Winchendon, Mass.....	Schr. Jennie A Stubbs..	Surinam.....	7
4808..	S. S. Society, Wellfleet, Mass.....	Ship Grecian.....	San Francisco....	25
4809..	"	Ship Farragut.....	Bombay.....	25
4810..	S. S. Cong. church, Malden, Mass.....	U. S. Rev. Cutter Gallatin	Cruising.....	36
4980..	S. S. Cong. church, Groton, Conn.....	Schr. Teresa.....	Para.....	9
5030..	Countess of Aberdeen, Scotland.....	Schr. Eagle.....	West Indies.....	6
5069..	"	Brig H. H. Wright.....	Montevideo, S. A..	10
5249..	S. S. Cong. ch., Homer, N. Y.....	Brig Stella.....	Buenos Ayres....	13
5396..	S. S. Cong. ch., Greenville, Conn.....	Brig Wapiti.....	Bermuda.....	9
5523..	Mrs. F. P. Gilbert New Haven, Conn.	Bark Palo Alto.....	Havana.....	10
5541..	S. S. Pres. ch., Haverstraw, N. Y.....	Schr. Robert S. Graham	Kingston.....	7
5642..	S. S. Miss'y Ass'n, Broadway Tabernacle, New York City.....	Schr. W. C. Bee.....	Mobile.....	8
5813..	S. S. Cong. ch., Rocky Hill, Conn.....	Brig Lena Thurlow....	Havana.....	9
5892..	Mrs. C. B. Page and Miss E. Blakeslee, North Haven, Conn.....	Brig Angelia.....	Matanzas.....	9
5909..	Frederick A. Libbey, New York City..	Bark William H. Besse..	London.....	15
5925..	Mrs. G. B. Grinnell, Milford, Conn....	Bark Edward Kidder....	Calcutta.....	15
5957..	Miss S. J. Beebe's Day School, Yonkers, N. Y.....	Bark Jonathan Brown..	Melbourne.....	15
5962..	William Libbey, Jr., New York City...	Schr. Comet.....	Kingston.....	8
6007..	R. P. Buck, Esq., Brooklyn, N. Y., being F. A. Spofford Memorial Library.	Bark Nineveh.....	Buenos Ayres....	12

5722.. Reported in LIFE BOAT issued with SAILORS' MAGAZINE for January should have read, —The Mary Thurston Library.

Letters and Incidents of Library Work.

Capt. ALBERT SHUTE, Master of schr. *General Connor*, wrecked in December, 1877, on the southern coast of Long Island, whose rescue, with his wife, daughter and crew, was narrated in our last MAGAZINE (page 24), remembers to write to our Rooms at Boston, of the Library (No. 4,080, contributed by S. S. Cong. church, Stoughton, Mass.) which was lost with the vessel:—"I deeply regret its loss: it had been perused with great interest, and was a means of great good to the seamen."

GOOD WORK DONE.

U. S. S. *Ranger*, Shanghai, China,
December, 4th, 1877.

I am happy to inform you that the two libraries *loaned to this ship, in April, 1877, at New York, have been read by every person on board the vessel. The number of souls in the crew was 146; all the books were read, but especially those treating of history and travels. The Bibles are still on board, and are distributed among the officers, the crew and the mess cooks. Thanking you very kindly for the libraries, I am

Very respectfully, &c.,

H. L. LAW, M.D.,

Passed Asst. Surgeon, U. S. N.

SUBSTANTIAL GRATITUDE.

New Castle on Tyne, England,
January 8th, 1878.

To the American Seamen's Friend Society:
80 Wall St., New York:

Dear Sirs:—"I have written to my owner, Addison Austin, of New Castle, Me., to send you forty-five dollars (\$45) as contributions by officers and crew of this ship at different periods of the voyage towards the Loan Libraries which the Society are so faithfully sending forth. Our library is No. 5,964, 37 volumes. We sailed from New York, November 21st, 1876, for San Francisco, arrived April 5th, 1877, after a pleasant voyage throughout. We sailed from San Francisco for Callao, April 24th, 1877, arriving June 14th; sailed on the 21st for the Guano deposits, and arrived there July 9th; then sailed Sept. 27th, for Falmouth, Eng., arriving Dec. 14th. During all this time both crew and officers have read with much profit and pleasure the books in the library.

I would here say that I think every ship ought to contribute to the support of these libraries and of the Society. It affords me much pleasure to send you this amount. I shall endeavor to do something for the Society every voyage I make, hereafter.

WM. A. ROGERS,
Master of ship *Josephus*,"

* Nos. 6,063, 6,064, contributed by W. Libbey, Jr., New York City.

The Marble Block.

Once, in a house at which I was staying, there lived a little lame girl. Her name was Annie. Often did I pity her as I saw her sitting by the window looking at the other children on the playground. Sometimes she was sick, too, and could not even be at the window. At last spring came, and the little girl seemed better. "Now," thought I, "would it not be well to try and comfort this child in some way?" So I brought a few oranges and candies, and read her a pretty book. But still the cloud did not leave her brow.

"Why are you sad, Annie?" said I, one day.

"O, sir," she replied, "I can't see why God should afflict me so, and yet give the other children so much happiness. If I could only know that God is not angry with me I would not care so much."

That day was a very pleasant one; so I asked the little girl to take a walk to a sculptor's room near by. Here were a great many blocks of marble. Marble, you know, is a very hard stone, often white. A sculptor is one who carves beautiful images out of it. So Annie and I watched him with great interest. At last I pointed to a piece of marble rather dark and rough. "Do you like the looks of that?" said I to her.

"O no," replied the child. "Why did they bring such an ugly block here?"

"That piece," said the gentleman, "I take in hand to-morrow."

So the next day Annie and I came again to see him. He spent the most of that day in cutting off the rough places. Day by day we watched him, and day by day the block became more attractive. His sharp chisel cut in here, there and everywhere. We both thought, "If that stone were only alive, how it would suffer!"

At last, one day, we visited him upon his invitation. "I have something to show to Annie," said he. So speaking,

the sculptor drew aside a thin white veil, and behold! a lovely image of an angel had been made out of the rough stone. Annie almost cried with joy when she saw it.

"Now, my child," said I, "did the sculptor hate the poor ugly piece of marble which we one day saw?"

"O no," said she. "He loved it."

"So," said I, "my little girl, does God love us when he cuts us with sharp trouble and sickness. He is fitting us for glory. Let us only trust Him. All will be well."

"Now," said Annie, "I see that God does not hate me, but that He has some good purpose in view."

Nothing Meaner.

John Bright wrote lately a note in which occurred this passage: "If children at school can be made to understand how it is just and noble to be humane even to what we term inferior animals, it will do much to give them a higher character and tone through life. There is nothing meaner than barbarous and cruel treatment of the dumb creatures, who cannot answer us or resent the misery which is so often needlessly inflicted upon them."

Talking Faces.

"I didn't say a single word," said Annie Barton to her mother, who was reproving her for her unamiable temper. "I know you didn't, Annie; but your face talked." What volumes our faces say! Some speak of love and kindness, some of anger and hatred, others of pride and rebellion, and others still of selfishness. We can't help our faces talking, but we can make them say pleasant things, and all should try to have them do so.—*Youth's Companion*.

American Seamen's Friend Society.

R. P. BUCK, *President*.
Rev. S. H. HALL, D. D., *Cor. Sec. & Treas.*
L. P. HUBBARD, *Financial Agent*.

District Secretaries:

Rev S. W. HANKS, Cong'l House, Boston,
Rev. H. BEEBE, New Haven, Conn.

LIFE MEMBERS AND DIRECTORS.

A payment of Five Dollars makes an Annual Member, and Thirty Dollars at one time constitutes a Life Member; One Hundred Dollars, or a sum which in addition to a previous payment makes One Hundred Dollars, a life Director.

FORM OF A BEQUEST.

"I give and bequeath to THE AMERICAN SEAMEN'S FRIEND SOCIETY, incorporated by the Legislature of New York, in the year 1833, the sum of \$—, to be applied to the charitable uses and purposes of the said Society."

Three witnesses should certify at the end of the will, over their signatures, to the following formalities, which, in the execution of the will should be strictly observed:

1st. That the testator subscribed (or acknowledged the subscription of) the will in their presence.—2nd. That he at the same time declared to them that it was his last will and testament.—3rd. That they, the witnesses, then and there, in his presence, and at his request, and in presence of each other, signed their names thereto as witnesses.

SHIPS' LIBRARIES.

Loan Libraries for ships are furnished at the offices, 80 Wall Street, N. Y., and 13 Congregationalist House, Boston, at the shortest notice. Bibles and Testaments in various languages may be had either at the office, or at the Depository of the New York Bible Society, 7 Beekman Street.

SAVINGS BANKS FOR SEAMEN.

All respectable Savings' Banks are open to deposits from Seamen, which will be kept safely and secure regular instalments of interest. Seamen's Savings' Banks as such are established in New York, 74-6 Wall Street and 189 Cherry Street, and Boston, Tremont Street, open daily between 10 and 3 o'clock.

SAILORS' HOMES.

LOCATION.	ESTABLISHED BY	KEEPERS.
NEW YORK, 190 Cherry Street.....	Amer. Sea. Friend Society.	Fred'k Alexander.
BOSTON, cor. Salem and Bennet Sts.	Boston " " "	B. F. Jacobs.
PHILADELPHIA, 422 South Front St..	Penn. " " "	Capt. J. T. Robinson.
WILMINGTON, cor. Front & Dock Sts.	Wilm. Sea. Friend Society.	Capt. W. J. Penton.
CHARLESTON, S. C.....	Charleston Port Society...	Capt. Peter Smith.
MOBILE, Ala.....	Ladies' Sea. Frnd Society.	Geo. Ernst Findeisen.
SAN FRANCISCO, Cal.....	" " "	
HONOLULU, S. I.....	Honolulu " " "	E. Dunscombe.

INDEPENDENT SOCIETIES AND PRIVATE SAILOR BOARDING HOUSES.

NEW YORK, 338 Pearl Street.....	Epis. Miss. Soc. for Seamen	Edward Rode.
4 Catharine Lane, (colored).....	do.	G. F. Thompson.
BOSTON, N. Square. Mariners House..	Boston Seamen's Aid Soc'y.	N. Hamilton.
PORTSMOUTH, N. H., No. 8 State St..	Seamen's Aid Society.....	John McIver, Supt.
NEW BEDFORD, 14 Bethel Court.....	Ladies' Br. N. B. P. S.....	Mr. & Mrs. H. G. O. Nye.
BALTIMORE, 23 South Ann Street.....		Miss Ellen Brown.
GALVESTON, Tex. cor. Strand & 26 st.		

MARINERS' CHURCHES.

LOCATION.	SUSTAINED BY	MINISTERS
NEW YORK, Catharine, cor. Madison.	New York Port Society....	Rev. E. D. Murphy.
cor. Water and Dover Streets.....	Mission " " "	" B. F. Millard.
Foot of Pike Street, E. R.....	Episcopal Miss. Society....	" Robt. J. Walker,
Foot of Hubert Street, N. R.....	" " " "	" H. F. Roberts.
Open air Service, Coenties Slip....	" " " "	" Isaac Maguire.
Swedish & English, pier 11, N. R.	Methodist.....	" J. L. Hodge, D. D.
Oliver, cor. Henry Street.....	Baptist.....	" E. Hopper, D. D.
Cor. Henry and Market Streets...	Sea & Land, Presbyterian..	" E. O. Bates.
BROOKLYN, 8 President Street.....	Am. Sea. Friend Society...	" P. G. Cook.
BUFFALO.....	" " "	
ALBANY, Montgomery Street.....	Methodist.....	" S. H. Hayes.
BOSTON, cor. Salem & N. Bennet Sts.	Boston Sea. Friend Society	" Cyrus L. Eastman.
North Square.....	Boston Port Society.....	" H. A. Cooke,
Cor. Commercial and Lewis Sts..	Baptist Bethel Society....	" J. P. Pierce.
Parmenter Street.....	Episcopal.....	" F. Southworth.
PORTLAND, ME., Fort st. n. Custom H	Portland Sea. Frnd Soc'y.	" J. W. Thomas.
PROVIDENCE, R. I., 52 Wickenden St	Prov. Sea. Friend Society..	" C. H. Malcom, D.D.
NEWPORT, R. I., 51 Long Wharf....	Individual Effort.....	" J. D. Butler.
NEW BEDFORD.....	New Bedford Port Society.	" Vincent Group.
PHILADELPHIA, c. Front & Union Sts.	Presbyterian.....	" William Major.
Cor. Shippen and Penn Streets...	Methodist.....	" W. B. Erben.
Catharine Street.....	Episcopal.....	" Joseph Perry.
Front Street, above Navy Yard...	Baptist.....	" Chas. McElfresh.
BALTIMORE, cor. Alice & Anna Sts..	Seamen's Un. Bethel Soc..	" E. E. Murphy.
Cor. Light and Lee Streets.....	Baltimore, S. B.....	" E. N. Crane.
NORFOLK.....	American & Norfolk Sea. } Friend Societies	" Jas. L. Keen.
WILMINGTON, N. C.....	Wilmington Port Society..	" Wm. B. Yates.
CHARLESTON, Church, n. Water St..	Amer. Sea. Friend Soc'y...	" Richard Webb.
SAVANNAH.....	" " " "	
MOBILE, Church Street, near Water.	" " " "	" T. H. Pease.
NEW ORLEANS.....	Amer. Sea. Friend Soc'y...	" J. Rowell.
SAN FRANCISCO, Cal.....	" " " "	" R. S. Stubbs.
PORTLAND, Oregon.....	" " " "	

AMERICAN SEAMEN'S FRIEND SOCIETY,

80 Wall Street, New York.

ORGANIZED, MAY, 1828—INCORPORATED, APRIL, 1833.

RICHARD P. BUCK, Esq., *President.*
Rev. S. H. HALL, D. D., *Cor. Sec'y & Treas.*

CAPT. NATH'L BRIGGS, *Vice President*
L. P. HUBBARD, *Financial Agent.*

OBJECTS. 1.—To improve the social, moral and religious condition of seamen; to protect them from imposition and fraud; to prevent them from becoming a curse to each other and the world; to rescue them from sin and its consequences, and to SAVE THEIR SOULS. 2.—To sanctify commerce, an interest and a power in the earth, second only to religion itself, and make it everywhere serve as the handmaid of Christianity.

MEANS OF ACCOMPLISHMENT. 1.—The preaching of the Gospel by Missionaries and Chaplains, and the maintenance of Bethel Churches in the principal ports of this and foreign countries. In addition to its Chaplaincies in the United States, the Society has stations in CHINA, JAPAN, the SANDWICH ISLANDS, CHILI, BRAZIL, FRANCE, ITALY, BELGIUM, DENMARK, NORWAY, SWEDEN, NEW BRUNSWICK, &c., and will establish others as its funds shall allow. Besides preaching the Gospel to seamen on ship-board and on shore, and to those who do business upon our inland waters, Chaplains visit the sick and dying, and as far as possible supply the place of parents and friends.

2.—The monthly publication of the SAILORS' MAGAZINE and SEAMEN'S FRIEND, designed to collect and communicate information, and to enlist the sympathy and co-operation of Christians of every name, in securing the objects of the Society. The last of these publications, the SEAMEN'S FRIEND, is gratuitously furnished to Chaplains and Missionaries for distribution among seamen and others. The Society also publishes the LIFE BOAT for the use of Sabbath-schools.

3.—LOAN LIBRARIES, composed of carefully selected, instructive, and entertaining books, put up in cases containing between thirty-five and forty volumes each, for the use of ships' officers and crews, and placed as a general thing, in the care of converted sailors, who thus become for the time, effective missionaries among their shipmates. This plan of sea-missions contemplates much more than the placing of a Christian Library on ship-board, in that, (1) It places the library in the hands of an individual who takes it for the purpose of doing good with it, and who becomes morally responsible for the use made of it, (2) It usually places the library in charge of the Captain of the vessel. (3) It contemplates a connection between the sailor and the individual who furnishes the library which he reads. The donor of each library is informed, if he requests it, when and where it goes, and to whom it is entrusted; and whatever of interest is heard from it, is communicated. The whole number of libraries sent out by the Society, to May 1st, 1877, is 5,866, containing 290,856 volumes. Calculating 4,678 re-shipments, they have been accessible to probably 250,000 men. Over one thousand hopeful conversions at sea have been reported as traceable to this instrumentality. A large proportion of these libraries have been provided by special contributions from Sabbath-schools, and are frequently heard from as doing good service. This work may be and should be greatly extended. More than 20,000 American vessels remain to be supplied.

4.—The establishment of SAILORS' HOMES, READING ROOMS, SAVINGS' BANKS, the distribution of BIBLES, TRACTS, &c.

The SAILORS' HOME, 190 Cherry St., New York, is the property and under the direction of the Society. It was opened in 1842, since which time it has accommodated over 90,000 boarders. This one institution has saved to seamen and their relatives, \$1,500,000. The moral and religious influence on the seamen sheltered there, can not be estimated. More or less shipwrecked seamen are constantly provided for at the Home. A Missionary of the Society is in daily attendance, and religious meetings are held on week day evenings. Similar institutions exist, in other cities, under the care of auxiliary Societies.

NOTE.—Twenty dollars contributed by any individual or Sabbath-school, will send a Library to sea, in the name of the donor. The SAILORS' MAGAZINE is, when asked for, sent gratuitously to Pastors, who take a yearly collection for the cause, and to Life-Members and Directors, upon an annual request for the same.